

## **Remarks**

The undersigned's Remarks are preceded by related comments of the Examiner, presented in small bold-faced type.

### **DETAILED ACTION**

1. **The abstract of the disclosure is objected to because the abstract should be a single paragraph. It is noted that applicant on page 11 of the response stated that a replacement sheet was being submitted however page 2 of the response only shows amendments to the abstract and no actual replacement sheet was submitted. Correction is required. See MPEP § 608.01(b).**

A replacement abstract sheet has been provided herewith.

3. **Claims 10-12 and 18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 10-12 and 18 are all drawn to nonfunctional descriptive matter in the form of an arrangement of a data signal. Note MPEP section 2106. In response to applicant's arguments cases such as *In re Brelow* deal with the transitory nature of a chemical not a nonfunctional descriptive matter signal as in the instant claims. Further the claims are directed to a signal without any specified physical form.**

The Examiner's rejection is respectfully traversed.

In accordance with MPEP 707.07, the Examiner is required to respond completely and to answer all materials traversed. The undersigned respectfully submits that, in responding to the undersigned's previous Remarks, the Examiner has not done so. The undersigned's previously-presented response is repeated below and, with regard to this response, the Examiner has not fully addressed the issues raised in that previous response: (1) The MPEP specifically states that signal claims directed to practical applications are statutory; and (2) claims 10-12 and 18 are each directed to a practical application as set forth in prior response.

In light of the foregoing, and as further explained below, the applicant has show that claims 10-12 and 18 are statutory and the claims are specifically supported by MPEP guidelines. It is respectfully requested that the Examiner withdraw this rejection.

In the present Action, the Examiner, in referring to the claimed signals as being a "nonfunctional descriptive matter signal," makes clear that the Examiner is simply overlooking the clear functional recitations of the claims as (e.g., "representing a physical configuration of an object," "representing a plurality of graphic tools coupled to said object, said graphic tools each representing a command function for modifying the geometry of the object," "representing a plurality of graphic tools coupled to a portion of said object, said graphic tools each representing a command function for modifying the geometry of the object."). This is simply improper.

Furthermore, with regard to the claims being directed to a signal “without any specified form,” in the absence of prior art showing the claimed signal having particular physical forms, it is not necessary for the applicant to narrow claims to recite particular physical forms. Applicant has stated a broad claim and is entitled to claim broadly absent prior art preventing such a claiming. Accordingly, the Examiner’s reference to the claims as not specifying a “physical form” is not a basis for rejection.

The following previously-presented remarks remain pertinent.

The Examiner’s rejection is respectfully traversed. It is well settled that a “signal” having a practical application is a patentable article of manufacture. See, for example, MPEP 2106 IV.B.1(c) (MPEG Rev. 2, May 2004, page 2100-14), which states:

a signal claim directed to a practical application of electromagnetic energy is statutory regardless of its transitory nature. See O’Reilly, 56 U.S. at 114-19; In re Breslow, 616 F.2d 516, 519-21, 205 USPQ 221, 225-26 (CCPA 1980).  
(MPEP 2106 IV.B.1(c))

Accordingly, the undersigned respectfully submits that the Examiner’s rejection of claims 10-12 and 18 is contrary to the MPEG and applicable law as claims 10-12 and 18 are directed to a “signal” having a practical application in the CAD/CAM arts. For example, claims 10-12 each recite a signal having the practical applications of, inter alia, (i) “representing a physical configuration of an object” and (ii) “representing a plurality of graphic tools coupled to said object, said graphic tools each representing a command function for modifying the geometry of the object”. Claim 18 similarly recites a signal having the practical applications of (i) “representing a physical configuration of an object” and (ii) and “representing a plurality of graphic tools coupled to a portion of said object, said graphic tools each representing a command function for modifying the geometry of the object.

For at least the reasons that a signal directed to a practical application is statutory, and each of claims 10-12 and 18 do recite a signal having a practical application, the undersigned respectfully submits that the Examiner’s rejection of claims 10-12 and 18 as non-statutory is improper and it is respectfully requested that the Examiner withdraw this rejection.

**5. Claims 1,2, 4, 7,8,10,11,13,14, and 16-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Harada et al. 5,844,563.**

**Harada et al. teaches a computer implemented modeling system, displaying an object, receiving an input from the user specifying the attachment of a graphic tool to the object and with the graphic tool representing a command to modify the object, saving an object history including the commands used to produce it, displaying the graphic tools, automatically modifying the geometry of the object in response to a command or commands, and concurrently active tools. See the abstract; figures; col. 1, line 7 to col. 2, line 14; col. 2, line 64 to col. 4, line 8; col. 5, line 31 to col. 6, line 16; col. 7, line 37 to col. 10, line 29; and the claims.**

**In response to applicant's arguments, Harada teaches the use of graphic tools indirectly attached to a 3D model to modify the model. See col. 3, lines 50-64 for example. Further claim 1 for example does not positively require the use of more than one tool, only the recitation of "one or more tools" is recited**

The Examiner's rejection is respectfully traversed.

It is noted that the Examiner's rejection is substantially identical to the rejection made in the Examiner's 04/02/2004 Office Action. In responding to the 04/02/2004 Action, the undersigned pointed out several distinctions between Harada and the present invention. These arguments are repeated below. It is respectfully submitted that, although the Examiner is now suggesting that Harada teaches the use of graphic tools attached to a 3D model, this is not the case and, accordingly, the undersigned's previously-presented arguments remain applicable and overcome the cited art. More particularly, the cited sections of Harada (e.g., col. 3, lines 50-64) do not appear to teach the attachment (directly or indirectly) of graphic tools, but rather, discusses the use of an "indirect index." Harada's discussion of indices (e.g., at col. 5, lines 49-54) does not suggest any relation between the use of an "indirect index" as referenced at col. 3, lines 50-64 and the use of "graphic tools" as recited in claim 1. Rather, these indices appear to be markers into history data. The "indices" of Harada and the graphic tools of the present invention simply are not the same.

The claims have been further amended to recite the use of multiple tools (i.e., at least two different graphical tools).

Harada is understood as disclosing a form of automatic updating of a modeled object that is different from what is taught and claimed in the present application. Generally speaking, what Harada teaches is the compiling of modification history data (including a command, a parameter and an index indicative of the part of the model being affected by the command). See, e.g., Harada, col. 3, lines 40 to 64. Harada's modification history data may be used to implement "Undo" and "Redo" functions allowing a designer to, e.g., "undo" a chain of operations, change parameters of a modeled object, and then "redo" a series of undone operations on the parameter-changed model. See, e.g., Harada, columns 1-4.

While claims 1, 2, 7, 8, 10, 11, 13, 14, and 16-19 are each directed to modification of modeled objects, what these claims recite is different from the modification and updating disclosed in Harada. For example, each of claims 1, 2, 7, 8, 10, 11, 13, 14, and 16-19 disclose the use of graphic tools, and particular operations on those tools, that are not taught or suggested by Harada. The following are examples of claim elements not taught or suggested by Harada:

- Claims 1-2, 10-11, 13-14 each recite graphic tools “attached to said representation of said object” such that “modification of any of said graphic tools by the user will cause its associated command function to modify the geometry of the object.” Harada does not disclose or suggest the use of “attached” graphic tools or modification of geometry of an object as recited by claims 1-2, 10-11, 13-14.
- Claim 16 and 18 similarly recite graphic tools “attached” to a portion of an object so that modification of any of said graphic tools by the user will cause its associated command function to modify said portion of the geometry of the object. Harada does not disclose or suggest the use of “attached” graphic tools or modification of geometry of an object as recited by claims 16 and 18.
- Claim 7, 8, and 17 similarly recites graphic tools “placed” on said object where modifying the graphical tools effects modifying the geometry of said object in accordance with the command function associated with the graphical tool. Harada does not disclose or suggest the use of “placed” graphic tools or modification of geometry of an object as recited by claims 7, 8, and 17.

It is well settled that a rejection under § 102(b) requires that the referenced prior art reference teach all elements of the rejected claim(s). Accordingly, and for at least the reason that Harada fails to teach or suggest one or more elements of each claim (e.g., elements requiring “attachment” (or “placement”) of graphic tools and elements requiring modification of object geometry by modification of said command tools as recited by claims 1, 2, 7, 8, 10, 11, 13, 14, and 16-19), a rejection for anticipation under § 102(b) is improper. It is respectfully requested that the rejection be withdrawn and the claims allowed.

**8. Claims 3,9,12,and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harada et al. 5,844,563 in view of Brodsky et al. 5,960,199.**

**Harada et al. teaches a computer implemented modeling system, displaying an object, receiving an input from the user specifying the attachment of a graphic tool to the object and with the graphic tool representing a command to modify the object, saving an object history an inputs, displaying the graphic tools,**

**automatically modifying the geometry of the object in response to a command or commands, and concurrently active tools. See the abstract; figures; col. 1, line 7 to col. 2, line 14; col. 2, line 64 to col. 4, line 8; col. 5, line 31 to col. 6, line 16; col. 7, line 37 to col. 10, line 29; and the claims.**

**Harada while teaching the use of sessions does not specifically state that the process can suspended and then resumed in response to a user input.**

**Brodsky et al. teaches pausing and resuming in response to operator input. See col. 5, line 66 to col. 6, line 6.**

**It would have been obvious to one of ordinary skill in the art to modify Harada in view of Brodsky and pause the modeling operation and resume it later in response to**

**an operator input. This would allow the operator to take a break in the design process and resume the design at a later time.**

**In response to applicant's arguments, Harada teaches the use of graphic tools indirectly attached to a 3D model to modify the model. See col. 3, lines 50-64 for example.**

The rejection of claims 3, 9, 12, and 15 under 35 U.S.C. 103(a) as obvious in view of Harada and Brodsky is respectfully traversed.

As explained, supra, with respect to the Examiner's rejection of claims 1, 2, 7, 8, 10, 11, 13, 14, and 16-19 under § 102 in light of Harada, Harada fails to disclose or suggest one or more elements of each of the rejected claims (e.g., elements requiring "attachment" (or "placement") of graphic tools and elements requiring modification of object geometry by modification of said command tools as recited by the claims).

Brodsky, like Harada, fails to disclose or suggest the "attachment" (or "placement") of graphic tools and modification of object geometry by modification of said command tools.

Because neither Harada nor Brodsky, alone or together, disclose or suggest all elements of the claims (including, inter alia, elements reciting attachment or placement of graphic tools and modification of object geometry by modification of said command tools as recited by the claims), the rejection under § 103(a) is not supported and is improper. It is respectfully requested that the Examiner withdraw the rejection and allow the claims.

**9. Claims 1-4, and 7-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gleicher " A Graphics Toolkit Based on Differential Constraints " ( cited by applicant ) in view of Hatanaka 5,923,573**

**Gleicher teaches a graphics toolkit. a computer system for modeling objects, displaying a representation of an object, attachment of a graphic tool to the object ( page 117, 1st column ), displaying the tool attached to the object so that any modification of the tool will cause the geometry of the object to be modified, and automatic execution. See the abstract; the figures; pages 110, 116-117.**

**Gleicher does not specifically show a computer system but teaches the use of a computer system.**

**Hatanaka teaches a computer system with memory for CAD, storing modifications and regeneration. See the figures and col. 5, line 17 to col. 7, line 52.**

**It would have been obvious to one of ordinary skill in the art to modify Gleicher in view of Hatanaka to use a computer with memory and also store the programming and model and the commands used to produce it for later use such as after a temporary halt.**

The Examiner's rejection is respectfully traversed.

Neither Gleicher nor Hatanaka, alone or in combination, teach or suggest a computer system operation method for use with a CAD system in modeling object that includes displaying a representation of an object; receiving input from a user specifying the attachment of at least two different graphic tools to said object, said graphic tools each representing a command function for modifying the geometry of the object; and displaying said graphic tools attached to said representation of said object, wherein each of said graphic tools is concurrently active, so that modification of any of said graphic tools by the user will cause its associated command function to modify the geometry of the object, as recited by claim 1.

Contrary to the Examiner's suggestion, the cited portions of Gleicher do not appear to teach or suggest at least the elements of (1) receiving input from a user specifying the attachment of at least two different graphic tools to said object, (2) where said graphic tools each representing a command function for modifying the geometry of the object; and (3) displaying said graphic tools attached to said representation of said object, (4) wherein each of said graphic tools is concurrently active, (5) so that modification of any of said graphic tools by the user will cause its associated command function to modify the geometry of the object.

The Examiner's suggestion that page 117 col. 1 of Gleicher teaches "attachment of a graphical tool to an object" is respectfully traversed. What page 117 col. 1 (and, in particular, the section of p. 117 col. 1 beginning with the heading "7. Windowing Support") is understood as teaching is no more than that a toolkit ("Bramble") provides for the placing of graphical objects within frames. This "toolkit" is not what is recited in claim 1. It is respectfully submitted that a properly supported rejection of claim 1 of the present application would require, inter alia, a showing that the prior art teaches or suggests (i) the attachment of at least two graphical tools to an object, where (ii) the tools represent command functions for modifying the geometry of the object, (iii) that the prior art, that the graphical tools have a "currently active" state, and where (iv) modification of any of said graphical tools by the user will cause its associated command function to modify the geometry of a displayed object. There simply is no showing that Gleicher's "toolkit" provides these functions (i) to (iv).

Independent claims 4 and 7 recite limitations analogous to the limitations of claim 1 addressed above and these limitations are likewise not found in the cited prior art. Accordingly,

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for at least the reasons set forth with respect to claim 1, independent claims 4 and 7 are patentable over the cited combination of Gleicher and Hatanaka.

**10. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

**11. Claim 6 is allowed.**

The Examiner is thanked for the indication of allowable subject matter.

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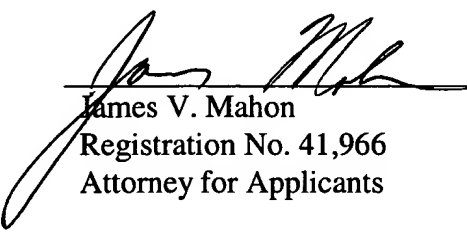
## **Conclusions**

Claims 1, 4, and 6 have been amended. Claims 1-19 are now pending and believed to be in condition for allowance. Applicant respectfully requests that all pending claims be allowed.

Please apply any credits or excess charges to our deposit account number 50-0521.

Respectfully submitted,

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